

I claim:

1. A smart recording system for monitoring wafer fragmentation, comprising mainly:

a plurality of photographing devices for simultaneously monitoring the circumstances when wafers are polished;

a multiple-image transmitter for transferring the image signals photographed by said photographing devices;

a multiple-image receiver for receiving the image signals transferred from said multiple-image transmitter and then merging the images captured at the same time into the same image frame; and

a personal computer wherein the I/O port of an image-capturing card can receive the image signal transferred from said multiple-image receiver, said PC also being used to receive the signal when a wafer enters or leaves the polishing apparatus and the signal of wafer fragmentation from a signal-transmitting device.

2. The smart recording system for monitoring wafer fragmentation as claimed in claim 1, wherein said photographing devices are CCD cameras.

3. The smart recording system for monitoring wafer fragmentation as claimed in claim 1, wherein said signal-transmitting device is an I/O port.

4. A smart recording method for monitoring wafer fragmentation, comprising mainly the steps of:

(1). clearing three files Image(1), Image(2), and Image(3) set in a personal computer;

(2). judging whether a wafer enters a polishing apparatus; repeating this step

if the answer is negative until a wafer enters the polishing apparatus;

(3). capturing images by a plurality of photographing devices and storing the images in said file Image(3);

(4). judging whether a signal of wafer fragmentation is generated;

5 maintaining the status of an image-capturing system and stopping the process if the answer is positive; continuing the next step otherwise;

(5). continuing to capture images by said photographing devices, judging whether the wafer leaves the polishing apparatus, jumping back to said Step

(4) if the answer is negative until the wafer leaves the polishing apparatus;

10 (6). storing said file Image(2) as said file Image(1), storing said file Image(3) as said file Image(2), clearing said file Image(3); and

(7). repeating said Steps (2) to (6) until the polishing work of the whole batch of wafers is finished.

15 5. The smart recording method for monitoring wafer fragmentation as claimed in claim 4, wherein said photographing device used in said Step (5) is a CCD camera.

6. The smart recording method for monitoring wafer fragmentation as claimed in claim 4, wherein the judgement in said Step (2) is made according to a wafer-entry signal transferred from an I/O port.

20 7. The smart recording method for monitoring wafer fragmentation as claimed in claim 4, wherein the judgement in said Step (4) is made according to a wafer-fragmentation signal transferred from an I/O port.

8. The smart recording method for monitoring wafer fragmentation as claimed in claim 4, wherein the judgement in said Step (5) is made according to a

wafer-exit signal transferred from an I/O port.

9. The smart recording method for monitoring wafer fragmentation as claimed in claim 4, wherein after the status of said image-capturing system is maintained and the process is stopped in said Step (4), technicians can
5 examine the circumstances.

10. The smart recording method for monitoring wafer fragmentation as claimed in claim 9, wherein said Step (1) is jumped back to after technicians examine the circumstances.

11. A storing method of wafer images, comprising mainly the steps of:

- 10 (1). capturing an image signal by a plurality of photographing devices;
(2). transferring the image signals to an image receiver;
(3). receiving the image signals by said image receiver;
(4). merging the images captured at the same time into the same image frame
by said image receiver;
15 (5). judging whether a wafer enters a polishing apparatus (judging whether the state of the store instruction is "ON");
(6). digitizing the captured image by an image-capturing card in a PC when a wafer enters the polishing apparatus;
(7). storing said digitized image into a file Image(3) set in said PC.

20 12. The storing method as claimed in claim 11, wherein said photographing devices are CCD cameras.

13. A control card formed by combining the functional circuits for controlling said Steps (3) to (7) in the storing method as claimed in claim 11.